

AMENDMENTS TO THE DRAWINGS

Please amend the drawings according to the replacement sheets included herewith.

### REMARKS

In view of the comments which follow, and pursuant to 37 CFR §1.116, reconsideration of the Official Action of November 21, 2005 is respectfully requested by Applicants.

Claim 1 has been amended to clarify that it is the final suspension/combination of beads and binding partner that has a pH of 10.5 to 12.5. Support for the amendment is found in the specification in Examples 1 and 2 (paragraphs 45 and 46) where pH adjustment is performed after combining microparticles and protein. No new matter has been added.

The drawings have been amended by adding "Figure x" to each sheet and to improve upon the legibility of the axis labeling. No new matter has been added.

Claims 1-3 and 5 remain pending for examination.

#### Objection to drawings

The drawings submitted by Applicants on October 6, 2005, have not been entered because they were not identified as "Replacement sheet" or "New Sheet" as required by 37 CFR §1.121(d).

In response to the Notice of Non-compliant Amendment mailed 10/14/05 and the examiner's objection, Applicants are re-submitting replacement drawing sheets concomittantly herewith that correct the deficiencies noted by the examiner, and they respectfully request the examiner's reconsideration and entry of the replacement drawings.

#### Rejections under 35 USC §112, second paragraph

Claims 1-3 and 5 have been rejected under 35 USC §112, second paragraph, for their recitation of "the combination" in part (a).

Claim 1 (and consequently claims 2, 3, and 5 depending therefrom) have now been amended to clarify that it is the final suspension/combination of beads and binding partner that has a pH of 10.5 to 12.5. Support for the amendment is found in the specification in Examples 1 and 2 (paragraphs 45 and 46) where pH adjustment is performed after combining microparticles and protein.

The examiner's reconsideration of the rejection under 35 USC §112, second paragraph, is respectfully requested by Applicants.

Rejections under 35 USC §103 (a)

Claim 1 been rejected under 35 USC §103 (a) as being unpatentable over Vaynberg et al., *Biomacromolecules* 1:466-472, 2000 (hereinafter "Vaynberg") as evidenced by Bocquier et al., *Structure* 7:1451-1460, 1999 (hereinafter "Bocquier") and Bohidar, *International Journal of Biological Macromolecules* 23:1-6, 1998 (hereinafter "Bohidar"). The examiner argues that Vaynberg teaches a method for producing protein-coated polystyrene microparticles that includes the steps of combining a suspension (colloid) of uncoated microparticles with a polymerized protein that is a member of a bioaffinity binding pair (gelatin), the combination comprising a buffer of pH 10, incubating the combination for a period of time whereby the protein is coated onto the microparticles by adsorption and separating the non-adsorbed protein from the protein-coated microparticles (by centrifugation). Bocquier is cited as evidence that protein gelatin is a partner of a bioaffinity binding pair as it binds fibronectin, and Bohidar is cited as evidence that gelatin has a size within the recited range of 10 nm to 300 nm.

Claims 2, 3, and 5 have additionally been rejected based upon Vaynberg as evidenced by Bocquier and Bohidar, and in view of Tischer, Desai, and Bangs, respectively.

The examiner admits that Vaynberg does not specifically recite a buffer of pH 10.5 to 12.5 but rather teaches adsorption of gelatin onto particles at pH values up to pH

10 (Figs. 1-7). The examiner argues that it would have been obvious for one of ordinary skill in the art to employ slightly higher pH values through routine optimization/experimentation of the conditions of Vaynberg with a reasonable expectation of success. She argues further that one would be motivated to employ higher pH values because Vaynberg teaches that because hydrophobic effects dominate in adsorption of gelatin, increasing pH results enables a denser layer of gelatin to form on the polystyrene (p. 470, left column, first full paragraph). Finally, the examiner argues that one would have reasonable expectation of success in employing higher pH values in the method of Vaynberg because Vaynberg teaches that pH differences were not critical and produced little variation in the adsorption efficiency of gelatin onto the polystyrene (p. 469, right column, l. 25 to p. 470, left column and Figs. 2-3). The examiner points out that, in particular, Vaynberg teaches that “pH hardly affects the adsorption of gelatin” and “the ability of gelatin to adsorb to [polystyrene] even at high electrolyte and high pH conditions”

Applicants traverse the rejection and argue that the examiner’s case for *prima facie* non-obviousness has not been made. Applicants argue that Vaynberg does not motivate the skilled artisan to assess coatings at pH values higher than 10. Vaynberg explicitly teaches that the maximum adsorption is around pH 6.2 for coating of polystyrene particles (p. 469, left column, l. 5-7). With this explicit teaching of an adsorption maximum, Applicants argue that there is clearly no motivation for the skilled artisan to test the pH range beyond the broad range of pH values already tested by Vaynberg.

With regard to the rejection of claims 2, 3, and 5, Applicants argue that these claims depend from claim 1 and should enjoy the patentability of claim 1 as argued above.

In light of the present amendments and the above remarks, the examiner's reconsideration of the rejection of claims 1-3 and 5 under 35 USC §103 (a) is respectfully requested by Applicants.

Applicants submit that their application is now in condition for allowance, and favorable reconsideration of their application in light of the above amendments and remarks is respectfully requested. Allowance of claims 1-3 and 5 at an early date is earnestly solicited.

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The examiner is hereby authorized to charge any fees associated with this Amendment to Deposit Account No. 02-2958. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

A handwritten signature in cursive script, reading "Marilyn L. Amick". The signature is written in dark ink and is positioned above the printed name and registration number.

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